

Ashes, cinders, mud, straw, glue, glass and plastics are among suspended solids found in industrial effluents. These may cause clogging and blocking of systems, especially when flow is varied. Suspended solids in effluents should not exceed 350 parts per million.

Greases and fats discharged with industrial waste solidify when cooled. They build up in layers inside the sewage system and may eventually cause blockage. The municipal by-law should establish allowable limits for these materials as well as for oils that also cause clogging.

Spillage and leakage of flammable or explosive material or noxious gases are sometimes unavoidable in industries. Every measure should be taken to prevent such waste from entering the municipal sewer system. Alarms, gravity separation traps and similar safeguards should be agreed upon between the municipality and the industry.

All of the above applies to discharges to municipal sanitary sewers.

Wastes discharged into storm sewers, on the other hand, are not normally directed through treatment plants at all before being emptied into watercourses. This means such wastes must meet the established Ministry objectives for discharge into open water-courses. The Ministry has also established objectives for the quality of all bodies of water in Ontario. These objectives are available in booklet form.



Pure water is perhaps Ontario's most vital resource.

Pollution is everyone's responsibility

Since many industries discharge their wastes into municipal sewer systems it is the responsibility of the municipality to control the water pollution they may cause. Such control is effective when based on mutual co-operation. The key to good co-operation is a good sewer-use by-law firmly enforced.

Staff members of the Ministry of the Environment will help municipalities establish good working relationships

with their local industry regarding pollution abatement measures. Such relationships work best when strong guidelines are established co-operatively. Experienced Ministry staff is available to help set up suitable rules.

We are glad to offer assistance and advice on any industrial pollution problem a municipality may have. Information outlining the role of the Ministry in this regard is available on request.

Industrial pollution is one of the most serious problems in water management in Ontario today. The problem will be solved only when all members of all the province's communities, large and small, recognize the dangers of pollution — and fully accept their responsibilities.

Ontario's water is one of our most vital natural resources. We endanger our own well being and our own lives by impairing its quality.

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How to work with Industry on Pollution Problems

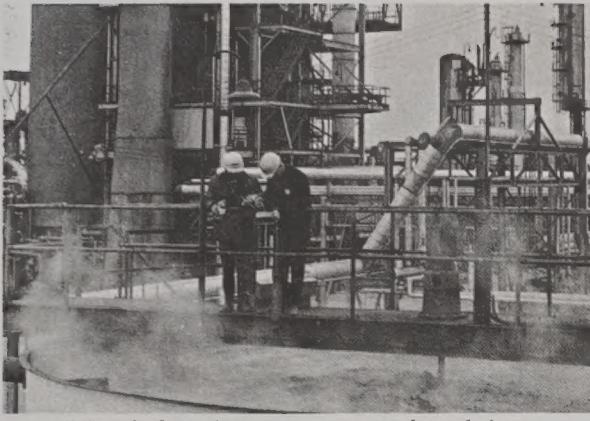


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Enquiries:

Ministry of the Environment
Information Services Branch
135 St. Clair Avenue West
Toronto, Ontario
M4V 1P5

Hon. James A. C. Auld, Minister
Everett Biggs, Deputy Minister



Before discharge from a co-operative industrial plant, water is tested for purity.

CO-OPERATION IS THE KEY

Water pollution caused by industry is regarded by many municipalities as a sticky problem.

It needn't be.

Workers and municipal services are vital to the operation of manufacturing plants. Payrolls and assessments are essential to a community's economy.

Mills and factories, therefore, are as much a part of the municipality as are its parks and playgrounds. Industry is knitted into the fabric of most communities. Industrialists are usually among their leading, and more responsible, citizens.

Enlightened businessmen, whether in their role as company directors or town councillors, are now realizing that anti-pollution measures are a necessary cost of doing business. In their work with industry, Ministry of the Environment personnel have found plant managers and boards of directors perfectly willing to co-operate in pollution abatement programs when the need is made apparent.

And co-operation at all levels is the key to pollution abatement.

Most factories use municipal sewers

Of the ten thousand-odd industries in Ontario, roughly 20% use water in their processes. Of these, about one-third discharge their process wastes directly into watercourses — lakes and rivers.

These industries are under constant surveillance by Ministry staff. Action is being taken where necessary to

preserve and maintain the quality of the province's water resources. Sometimes this means requiring industries to treat their wastes before dumping them. Often it means redirecting effluent into local municipal sewers.

The other two-thirds of Ontario industries — those that don't send their wastes into watercourses — often discharge their wastes into their local sewage system.

As both population and industry continue to grow explosively, intense co-operation is needed to protect water resources from serious pollution. New sewage treatment plants are being built all over Ontario. Existing ones are being enlarged. Municipal collection systems and treatment plants are generally designed to handle a fairly uniform quality of sewage coming in a fairly regular day-to-day pattern.

Industrial wastes, however, are often far from uniform. They may vary widely in quality and quantity from hour to hour and day to day as the industry changes from one process to another. As our affluent society continues to demand a growing number of exotic products from industry the already complex problem of handling industrial wastes will not diminish.

It will increase and grow more complicated.

Responsible co-operation between industries, local governments and regulatory agencies will be of critical importance.

Provide a basis for co-operation

Perhaps the most important first step toward working effectively with industry on pollution abatement is the passing and enforcement of a good sewer-use by-law by the municipality. The Ministry of the Environment has drafted such a law. The draft is available to municipalities who are urged to adapt it to local needs. Once the by-law is enacted it must be enforced. Municipalities are advised to hire staff to carry out regular sampling of industrial flows to sanitary sewers. Keeping a close watch on effluent will minimize the danger of the municipal sewage system becoming overloaded. Even the best waste disposal system can break down when strained beyond its capacity. Such a breakdown can be an extreme health hazard.

Where sampling shows an industrial waste flow to be unacceptable under the by-law two courses of action are open to municipal officials. One is to require the industry to correct the problem so that its wastes are within the by-law requirements. The other is to establish a waste surcharge, in effect an effluent tax, which would be in addition to any basic sewer use charges.

The latter method may, at first glance, appear to be a license to pollute. It is not. The surcharge is based on the cost to the municipality for the necessary additional treatment. An industry unable to afford a large capital outlay for treatment facilities may well be able to handle an annual service charge that will cover increased municipal plant operating costs or expansion. In this way the pollution danger is eliminated and the industrial payroll and assessment is retained to the community's benefit.

The Ministry has drawn up a sample agreement that might be made between an industry and a municipality regarding effluent surcharges. Copies may be obtained on request.

Industrial wastes can raise complex problems

Excessive flow or widely fluctuating flow can overload sewers and treatment plants. Industries should provide equalizing facilities to regulate their waste discharges.

High temperature effluents can accelerate corrosion, place stress on piping systems and can cause excessive biological action in sewers. Cooling towers may be necessary to keep the waste discharge under 150 degrees F.

Excessive acidity or alkalinity can accelerate corrosion, cause scaling in pipes and upset the biological processes by which the treatment plant operates. Neutralization facilities should be provided.



Lack of industry co-operation in waste removal results in ugly, unhealthy landscape, and polluted water.

The biological processes can also be adversely affected by excessive concentration of such materials as cyanide, copper, hexavalent chromium and hydrogen sulphide. Treatment should be provided to reduce these contaminants to desirable levels.